

AMERICAN VETERINARY REVIEW,

APRIL, 1882.

ORIGINAL ARTICLES.

THE HORSE'S FOOT.

BY A. ZUNDEL.

(Continued from page 547, Vol. V.)

CONTRACTED HEELS—HOOF BOUND.

SYNONYM: *Zwanghuf*, German; *Encasleture*, French; *Incastellatura*, Italian; *Encatenadura*, Spanish.

This name has been given to a defect of the horse's foot, by which it becomes characterized by its general narrowness, more marked, however, in the posterior than the anterior part. It is especially marked by the diminution of the lateral diameter of the horny box, the deformity consisting in a greater or less contraction of the heels and of the quarters.

It is principally observed in the fore feet, and it is there only that it presents the characters we are about to describe. This is due to the fact that in the fore legs there is need of a certain expansibility in the posterior part of the foot, which, especially during the action of locomotion, receives the weight of the body; while the contraction of the hind feet, gives rise only to an ordinary form of lameness. Sometimes one of the anterior legs only is affected; sometimes both, and in this latter case, the alteration is usually greater in one foot than in the other. Some horses are also seen whose feet are contracted only on one, usually the inner side, while the other preserves its normal form and directions.

Sometimes "hoof-bound" is only a simple deformity, without lameness and without serious result. But in most cases, it constitutes a very serious affection, which renders many horses useless and almost without value. It is of more common occurrence than is generally admitted, and gives rise to many other affections of the foot. Cases of lameness treated as located in the shoulder, or as navicular disease, are very often nothing but the result of commencing contraction of the heels. True navicular arthritis and hoof-bound are closely related. Whether the disease of the sesamoid sheath, arising primitively brings on the subsequent contraction; whether the contraction already existing gives rise to the alteration of structure which constitutes the disease so named, cannot always be determined. Hoof-bound was known in old times, and the oldest hippiatrics have proposed means to cure it. Riders especially have studied it, because the disease is most common in fine saddle horses, whose feet are small. It is frequent in Turkish and Spanish horses, and animals from the Pyrenean districts, but common horses are not exempt from it.

H. Bouley describes two forms of the disease, the *true* and the *pretended* or *false* contraction. In the first, the hoof is very narrow, sometimes even concave on its lateral face, to such an extent that its antero-posterior considerably exceeds its transverse diameter; while at the same time its wall is more vertical, and the heels considerably higher than normal, and the foot looks like that of a mule, of which this is recognized as the normal appearance. In the false contraction, there is merely a diminution of the transversal diameter of the horny box in its posterior parts, the foot being narrow and contracted at the heels only.

We prefer to recognize a *total* contraction where the whole foot is contracted, and is smaller than its fellow; *atrophied*, so to speak; consisting in a contraction *of the quarter*—when it is principally narrow in those quarters, the condition extending back to the heels—and a contraction *of the heels* when this is well marked from the quarters to the heels only. A *coronary* and a *plantar* contraction have also been designated, depending upon whether it occurs at the superior or inferior part of the foot, and

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there are cases where the contraction is *intermediate*, that is, in the middle of the foot only, while it has its normal size, both at the coronary band and at the plantar border. *Single* and *complicated* contractions have also been named. It is admitted that it may be *congenital*, though rare; most often, however, it is developed by itself, as a result of special causes.

I. *Symptoms*.—The physiognominal aspect of the hoof-bound foot is characteristic, and it is by this that we shall begin the symptomatology of the disease. When the disease is total, the complete general dimensions of the foot are observed to be smaller than would be required by the size of the animal affected; most frequently the hoof has an oval form, consequent upon the antero-posterior diameter exceeding the lateral, which is generally diminished. In the contraction of the quarters, the narrow condition of the foot is specially marked from the centre of the quarters back to the heels. In contraction of the heels, the diminution is very marked from the centre of the quarters to the end of the heels, so that the two sides of the wall converge towards each other posteriorly in following a nearly straight line, instead of the circular appearance of the normal state, and the heels have principally lost their round appearance, and are elongated, and even pointed in appearance. The wall, in the regions where the contraction is more marked, that is, behind, is either perpendicular to the ground, or even oblique downwards and inwards, in such a way that the coronary circumference is greater than the plantar, and consequently it represents an inverted truncated cone.

The opposite form of contraction, that of the coronary, is seldom seen, and we may ignore it. The wall is irregularly rough and ramy, and without its shining appearance. The heels are generally high, nearly as high as the toe, though it is not so severely altered in cases where the heels only are contracted. As a consequence of the contraction of the plantar border of the wall, the sole seems to become folded in the direction of its antero-posterior axis, and it shows a much greater concavity on its internal face than in the normal state. This cavity is then filled by the frog, considerably reduced in size,

thus presenting an idea of the severity of the contraction. Most frequently it is a thin, thready body, flattened on its sides by the closing of the bars; its branches, thin and narrow, resembling two bands so closely resting on each other, that the lacuna which separates them is no more than a narrow fissure, which will scarcely admit the introduction of the thin blade of a knife, and from the bottom of which escapes a sero-purulent, gray or blackish liquid; the lateral lacunæ being also transformed into two narrow and deep fissures, filled with the same fluid. The bars, generally high, assume a direction perpendicular to the ground, instead of being oblique, as in the normal state, from the centre of the foot towards its circumference.

In all the regions of the foot, but especially at the wall, the horn is so dry and hard that sharp implements cannot cut its cortical covering, while it is at the same time brittle, and hence numerous superficial fissures appear at the quarters, and the outside and inside toes, the frog itself being hollowed by fissures upon its body and its branches. Sometimes it happens that the bars show deep fissures, running from above downwards, to the extremity of the lateral lacunæ, which are thus continued by a crack of the heel up to the skin of the coronary band. There is often a separation of the wall and the sole, the formation of what has been called a double wall, or false quarter. Quarter cracks are commonly met with it. Corns are frequently seen also in connection with it.

Whatever may be the form of the contraction, it is generally accompanied by pain, manifested by change of position while at rest and by lameness when in action.

If only on one side, the affected leg is carried forward, and thus relieved from the too painful pressure which would take place if it remained in a vertical direction under the centre of gravity. When both feet are diseased, the horse is constantly moving and balancing himself, pointing the legs alternately and sometimes stretching both legs forward, as in laminitis, but always moving, so as to push his bedding under him and away from his fore feet.

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mal hesitates and stumbles easily. But if the disease is advanced the lameness is great and the animal is very groggy in his gait. He fears to rest on his heels, which without being a peculiar characteristic is a symptom which presents, however, a particularly noticeable condition. While there is hesitation in the action of resting, there is difficulty in that of the shoulder. This is principally observable when the disease affects both feet. The shoulders then seem to be fixed to the trunk, and their motion forward is very limited. The symptoms are mostly more marked when the animal leaves the stable. It may then happen that the pain temporarily losing somewhat of its intensity as the horse is moved, the shoulders become more free, the liberty of action returns, and once warmed up, the animal may offer a totally different appearance from that when first leaving the stable. But as soon as they become rested, the pain returns as severely as before, if not more so, and with it the same exhibition of symptoms.

The examination of the unshod foot while it is warm, shows the extreme sensibility of the heels. The foot being pared, generally one may observe, in the region where the contraction is most marked, yellowish or reddish discolorations, evidences of the bruises in the living parts, as well as of the serous or bloody exudations which have taken place on their surfaces. These indications are especially abundant on the level of the sole and wall. If the contraction is old, there is at that point a pulverulent mass which when removed, leaves a cavity which sometimes extends upwards under the quarters. It is a separation of the wall, of two or three centimeters in depth.

An important observation for hoof-bound, and which assists in its recognition, is the increased wear upon the shoes at the toe, which takes place not only when animals are working, but also while idle in the stable as the result of pointing and scraping the stable floor. The horse which has both feet diseased is constantly in motion, to such an extent that his shoes are entirely worn in a few days.

At times the pain is so great that it gives rise to general symptoms; the animal becomes anxious, loses his appetite, re-

fuses his food, lies down most of the time, and rises only with difficulty.

II. *Complications*.—We have already seen that *quarter cracks* and *dry corns* are common affections of contracted feet. Exostosis of the phalangeal region is also commonly met in such feet, especially side-bones. Knuckling, and diseases of the tendons and of their sheaths are also often caused by contractions of the feet. The rest of the foot on its whole surface is thus perverted and the tendons become retracted, painful and swollen.

Navicular disease is so often met with in company with contracted feet, that one disease is frequently mistaken for the other.

Laminitis has been said to be also one of the complications; if so, it is at least, quite rare in its occurrence.

Tetanus has sometimes been observed among its associations, and Hartman attributes the development of so-called idiopathic cases of that disease, to this condition of the feet.

The emaciation of the affected leg is a complication seen also, with other forms of lameness.

(*To be continued.*)

CESTODE TUBERCULOSIS.

♂ A SUCCESSFUL EXPERIMENT IN PRODUCING IT IN THE CALF.

BY PROFESSOR OSLER, M.D., McGill University, and A. W. CLEMENT, of Lawrence, Mass., student in the Montreal Veterinary College.

It is a curious fact, and one which requires further study and explanation, that while the *Tænia Saginata* is the common tape worm of this country, its larvæ, the measles of beef, are very seldom met with. On the other hand, while *T. Solium* is by no means so prevalent, yet its larvæ, the measles of pork, are not at all infrequent. Cobbold* refers to this, and states that "not a single instance has been recorded of the occurrence of these cystic parasites in the United Kingdom, except in our experimental animals." Of course much more fresh beef and

*Parasites, 1879.

veal is less than that met with in the prevalence of the disease. No infrequent fillet impurities. Expensive and unsuccessful. Mosler, Perron, repeated. So far, been met. In the study of a case of segmental segmental. The five portions. The ten kept under of the calf. During fed well. tion made above 1000 fœces with material ination of numerous well. Cattle pulse kept mal seen.

veal is consumed than fresh pork, and the former is, as a rule, less thoroughly cooked, and it may be, as we shall state hereafter, that measly veal is not as readily detected as measly pork. The prevalence of tape worm is directly dependent upon the efficiency with which the meat inspector and the cook perform their duties. No infected carcase should escape the one, and a measly steak or a fillet of veal from the kitchen of the other, could be eaten with impunity.

Experimental proof of the relation between the beef cysticercus and *T. Saginata* was offered by Leuckhart, who, in 1861, successfully reared the measles by feeding a calf with ripe segments. Mosler, Gurn and Zeuker, in Germany; St. Cyr., in France; Perroncito, in Italy, and Cobbold and Simonds in England, have repeated the experiment, in most instances with a positive result. So far as could be ascertained, no experiments of the kind have been made in America.

In order to procure specimens of measly veal, and to afford the students of the veterinary college an opportunity of studying a case of cestode tuberculosis, we fed a calf with fifty ripe segments of a tape worm, believed, from the characters of the segments, to be the *T. Saginata*.

The animal, a female calf, aged three days, weighing seventy-five pounds, was fed, November 22d, at the veterinary college. The temperature after the feeding was 103-4°. The animal was kept under observation for seven weeks, and a daily record kept of the chief symptoms, which briefly summarized, were as follows: During the first week no special change was observed; the animal fed well and seemed lively. With the exception of the observation made just after the feeding, the temperature did not rise above 102-5°. The pulse range was from 112 to 130. The fæces were soft, one day mixed with a quantity of gelatinous material. No segments were observed, but microscopical examination on the third day after feeding determined the presence of numerous ova. In the second week the animal did not appear so well. On December 2d the temperature rose to 104-6°. The pulse kept over 100, of moderate volume. On one day the animal seemed stiff in the limbs and disinclined to move about, but

next morning was as lively as before. The fæces kept tolerably consistent; no ova were found on subsequent examinations. During the third week there were no special symptoms to attract attention; the food was taken very well, and superficial observation would have judged the calf to be healthy. The temperature kept up was over 103° and on two days above 104° . The pulse decreased in rapidity, sinking below 100, the range being from 86 to 95. In the 4th week the temperature was above 104° on five days, and the pulse was a little quickened. There were no intestinal symptoms; muscles not stiff, and beyond a slight weakness, the animal did not appear very ill. During the fifth and sixth weeks the *status quo* was maintained; temperature, between 103° and 104° ; pulse, about 90. During part of the Christmas vacation the daily record was not kept. In the seventh week no special change; food was taken well and the animal was active. It had got thinner, but this may have been owing to an insufficient supply of nourishment. On January 12th, fifty-one days after the feeding, the animal was killed, as it was thought that the *cysticerci* would be fairly well developed. *Post-Mortem*.—Body somewhat wasted; *panniculus adiposus* thin. The general lymph glands were much swollen. Apart from the presence of the measles, nothing abnormal was found, so that the record may be limited to an account of their distribution. In the *abdomen* they were numerous in the omentum and in the fatty capsules of the kidneys. The liver was almost free: only two were found. Each kidney contained six or eight. In the thorax, none; in pleura, a dozen or more in each lung; in the heart, tolerably numerous, particularly in the right ventricles. They were very evident beneath both peri and endo-cardium. The voluntary muscles were, as usual, the favorite locality, and presented a moderately abundant infection. The diaphragm did not contain very many; the tongue was in places thickly studded, and they could be easily seen beneath the mucous membrane; of the skeletal muscles those of the thorax and back were most affected, and every muscle contained several examples.

As regards their obvious characters, the cysts were ovoid, with semi-translucent appearance, and usually a central opaque spot.

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They varied in length from three to six mm. The cysts were tightly embraced by the intercellular tissue in which they lay, but a little careful tearing was sufficient to disengage them. Microscopical examination showed the larvæ to be in an advanced stage of development; in the majority the head, with its disks, was well formed; some were immature, and the head imperfectly developed.

The experiment was as successful as could be wished and we have procured a supply of measly veal.

Among points of interest in connection with the case, the symptoms take the first place as the clinical history of the affection has not been carefully studied in many instances.

The severity of the symptoms in any case of cestode tuberculosis will depend upon the number of ova ingested and the number of larvæ which penetrate from the intestines to the system at large. The more numerous, the greater the constitutional trouble. If only a moderate number of ova are ingested, the animal may not display any special symptoms. In Leuckart's original experiment, the calf, three weeks old, received scarcely fifty ripe segments, but death followed on the twenty-fifth day, apparently caused by the eruption of the cysticerci throughout the body. In one of the calves of the Cobbold-Simonds series, over four hundred ripe segments were given during two months, yet the animal did not appear seriously ill. But when killed, it was estimated that over twelve millions of cysticerci were in the organs and flesh. In the present instance, the constitutional disturbance was slight and the fever moderate, and there was no special affection of the muscular system. The normal temperature of the calf is about 103° , so that there was no fever until the second week, when the temperature ranged to nearly 105° ; slight pyrexia kept up through the third, fourth and fifth weeks, and it was the persistence of this which led us to suppose that the animal had become infected. There was no sudden rise of temperature, such as might be supposed to occur at the period of migration of the proscolices. In Zurn's case,* which is the only one we can find with a carefully recorded clinical history, the tem-

* Die Parasiten des Menschen Kucheumeister und zum 2te Auflage 1881.

perature range was much higher, and the general disturbance very great, death occurring on the twentieth day. In our animal the more severe course might have been expected from the large number of ripe segments administered; but, perhaps the passage of many of the eggs in the fœces may have had something to do with the mildness of the attack.

How does it happen that the *T. Saginata* is so prevalent, when its "measle" is apparently so scarce? Several causes bring this about. In the first place, the beef "measle" is smaller than that of the pork, and is not so opaque; in consequence, it is more readily overlooked; we are sure that any meat-inspector, unless specially instructed, would have *passed* the flesh of our experimental calf. The larvæ did not at once catch the eye in the red flesh, as in the case of *cysticercus cellulosæ*, but required to be looked for, though five to six mm. in length. Secondly, it is not improbable that many of the animals from which the infected meat is obtained are not extensively diseased, but present only one or two examples, easily overlooked in dressing the carcase. Calves and oxen are much less likely than pigs to get an entire strobile of a tape worm, or even many segments. And, thirdly, a very much greater quantity of beef and veal is consumed in a fresh state than of pork, and the former meats are not, as a rule, so thoroughly cooked. It is quite common to see joints on the table, the central parts of which have not been raised to a temperature sufficient to kill the larvæ.

LARGE HEART-CLOT FOLLOWING PURGATION.

BY B. MCINNES, JR., M. R. C. V. S.

December 21st, 1880, a mare, about eight years old, was brought to me suffering with very severe colicky pains.

History: She had been brought here about two years previous, and worked in light harness. After being here about a year, she had a slight attack of laminitis, after which she was thought unfit for city work, and sold to go into the country, where she was poorly fed and cared for. She had been in the city for

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about a week, and when brought to me was in an emaciated condition. I therefore concluded that her digestive organs were weak, and she had been overfed.

Treatment: After the administration of several colic balls, with no cessation of pain, I gave a full aloetic cathartic, which began to act freely upon the bowels the morning of the third day. Violent intermittent pains continued all this day, and the mare partook of no food. These pains continued until the evening of the seventh day, when she died suddenly.

Post Mortem revealed a large polypus, filling the right side of the heart, the neck of it passing into the pulmonary artery. It presented the following dimensions: Weight, $13\frac{1}{2}$ ounces; length, 10 inches; greatest circumference, 10 inches; greatest diameter, $1\frac{1}{2}$ inches.

[Examination of the specimen kindly sent by Dr. B. McInnes proved it to be a large heart-clot—ED.]

TRICHINÆ,

A LECTURE DELIVERED BEFORE THE STUDENTS OF THE
AMERICAN VETERINARY COLLEGE.

BY F. S. BILLINGS, V. M.

(Continued from page 554, Vol. V.)

According to the previously given statistics with reference to Trichinæ among swine in Germany, it is more than sufficiently evident that we have the unenviable and damaging reputation of having an infinitely greater percentage of trichin-infected swine in this country than they have in Germany.

The percentage of trichiniasis among the swine examined at Restock is, as before stated: 1.3543 for Brunswick; 1.8963 for Prussia, according to Eulenberg, 1.2032. While for the United States, according to the "Chicago Academy of Sciences" we have 28 out of 1394 swine trichinous, or 1.50; and according to another Chicago report, 8.100, or $12\frac{1}{2}$ per cent.; and according to our own examinations, 345 out of 8773, or 1.25. There is no doubt that most of the swine which we examined were from

the west, yet no one well acquainted with the circumstances would, I think, assert that the hygienic conditions under which our western swine are raised, are not superior to those of the famed "home-fed" porkers of the small New England farmer, raised, as they only too often are, in dark, loathsome, poorly ventilated pens, only too frequently under stables, with the house-vaults and sink-drains emptying into them.

Again, whoever has been upon a tour of observation among the agricultural districts of Germany, must have been most forcibly struck with the absurd non-hygienic conditions under which, not only hogs, but the majority of the domestic animals are raised and surrounded, in comparison with those of our own country, especially of the stock-raising west.

It is also of the greatest importance to statistically settle by means of a great number of exact examinations at the hands of competent and strictly honest observers, whether this great percentage of trichin-infected hogs, is to be found among those fattened under the more unfavorable conditions offered by the large western distilleries, in comparison with those offered by the open-air feeding, limited almost entirely to corn, of the western farmer.

This question of trichin-infection of American pork is one, which, at the present, may fail of a proper appreciation by the American people and the respective State Governments. Yet, it is one of great national importance, from an economical point of view.

The rigid inspection which has been begun, and is in the future to be still more rigidly executed; the numerous cases of infected American pork which are generally being reported in continental, especially German papers, and which are always noticed by those of Britain; the too numerous cases of disease among human beings traced to the same, are gradually serving as an "embargo," or at least, as a heavy "import duty," which can but influence our foreign markets in this immense American agricultural production.

We have then, as a nation, to discover why it is that our western swine, raised as they are under what appear to be more

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favorable hygienic conditions, are so much more infected with trichinæ than those of Germany, which are nearly all penned, and often given the contents of the out-house to root over.

It is well known that trichinæ have been found among the wild swine of Europe.

It would be interesting to know the facts, in this regard, as to our own wild swine of the southern and western States, as well as the peccaries of Mexico and Central America.

The census of 1870 gives the number of swine in the United States as 25,134,569; if 6 per cent. of this number are infected, then we have at present the enormous number of one million, five hundred and eight thousand, and seventy-four (1,508,074) swine in this country, the consumption of which for food is fraught with serious danger to mankind.

The following freely translated extract is taken from remarks "on the trichinæ in American pork," by Professor Bollinger, of the Royal Veterinary Institute, Munich, Bavaria, from the "Deutsche Zeitschrift für Thiermedizin," vol. 1, p. 220, the same being a notice of a paper on the subject by Dr. Roeper in the "Deutsche Vierteljahrsschrift f. Aeffent. Gesundheitspflege."

"The author of the paper 'Die Trichinæ der Amerikanischen Schinken,' has made numerous investigations in order to contradict the opinion held in America, that the trichinæ of American pork are an entirely different species from those found in the swine of Germany, and are harmless. (We should like to know where the author got that idea?) Also to contradict the opinion that the peculiar processes which 'American sugar-cured hams' are passed through is sufficient to render parasites harmless."

The author first demonstrated by carefully executed microscopic examinations and measurements, that the American trichinæ correspond with those found in Germany, in form, structure and size. Two feeding experiments with the same upon rabbits proved negative, however. But this evidence is sufficiently counterbalanced by the trichinæ-epidemic in Bremen, where from the consumption of American pork numerous persons (40) became sick.

With reference to the percentage of trichinæ in American pork, we find the following:

Kraemer (Gottingen) found 30 per cent. of the American hams examined by him, trichinous: Fuge (veterinarian, Gott.) found 24 out of 824 American hams infected; singularly enough the sugar-cured hams "were found more seriously infected than those cured in the common way—a mere accident. In Germany, on the contrary, it is estimated that of every 10,000 swine, but one will be found trichinous. (This does not agree with the above-given statistics.)

The following is given as an attempt at explaining the greater per centage of trichinæ among our swine:

"The swine which are brought to the large American slaughter houses are allowed to feed upon the refuse from slaughtered swine, and in this way have time and opportunity to infect themselves. Such infected swine are themselves slaughtered, and again give cause to infection to those that may remain, or which may have arrived later, by feeding upon the refuse of the slaughtered swine. Accordingly, this evil must go on, constantly extending, and all persons must be earnestly warned against the consumption of raw American pork. By the so-called 'rapid smoking' or 'curing process' practiced in America, the trichinæ in the peripheral, or outside parts of the hams are doubtless killed, but those more deeply situated are not."

The author of the above, when speaking of "feeding the swine in our large slaughter-houses with the *refuse* of those previously slaughtered," certainly knew absolutely nothing about the subject upon which he was writing. At neither of the large packing-establishments in the vicinity of Boston is this the case, and we would like to ask the author, how much time does he suppose is given for infection and invasion in establishments killing one thousand or more per day?

It takes, according to the best German authorities, from 5 to 7 days for the newly introduced trichinæ to bring forth their young, from the time of their introduction.

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for from 5 to 7 days, for they are generally slaughtered as soon as possible after being unloaded from the cars.

While the above assertion is absolutely false with reference to the large establishments, it is strictly true, not only of many small establishments, where hogs are killed for home consumption, but also where they are kept, fattened, and killed by the farmer or raiser, for the use of his family.

Who has not as a boy, while waiting for the longed-for bladder, at a neighboring farmer's, seen the intestines, or their contents, heedlessly pushed into the hog-pen for the swine still remaining, to consume.

This report says further: "the refuse from slaughtered swine at such 'large' establishments is sold to the neighboring farmers as food to fatten their swine, and this also helps to swell the percentage of infection."

Where is this done?

Certainly not in Boston, nor in Cincinnati or Chicago, as the following letters in answer to my direct inquiry will show.

Mr. J. Meyer, Senr., a very competent veterinarian of Cincinnati, writes:

CINCINNATI, Oct. 16, 1879.

During the time that swine are quartered at the larger regular packing-establishments, which is generally from one to three days in the summer months, and from one to six days in the winter months, they are fed on corn and water exclusively. There are slaughter-houses, however, in which both cattle and swine are killed for the *local trade*, where the offal collected from the whole house is cast to the swine awaiting their doomed moment. This food is consumed in an uncooked state. The offal from the larger packing-houses is collected daily by the fertilizing company, and transferred to their factory, where the fats are extracted by the aid of steam, the residue dried and transformed into fertilizing material.

With regard to the conditions at the Chicago packing-houses, Dr. Paaren writes:

CHICAGO, October 16, 1879.

After due inquiry, I herewith have the pleasure to reply to

your inquiry, "If swine at the large Chicago packing-houses are fed upon the intestines and other offal of those previously slaughtered, in a cooked or uncooked condition?"

No hogs are fed within many miles of the stock yards, except an occasional one, kept by an Irish or German woman, and fed from her kitchen. No part of the offal of the slaughter-houses is used for feeding animals of any description. Every packing-concern has an apparatus for this purpose. There are extensive rendering establishments that take and dispose of every dead animal. The gates are guarded so that none can be taken off to any other place. The product of these establishments is prepared chiefly for axle and soap grease; the bones and hair go to the fertilizers. It would be impossible to use any of this matter for food to hogs, as the odor stays with it too closely to allow any one to be deceived by it. There is one separate department where the large alimentary gut is prepared for the use of Bologna sausage makers. There are three or four establishments that take blood and prepare it for fertilizers and sugar refiners. The hair from the packing-concerns is contracted for by regular dealers, who take it to the prairie, where it is spread out, washed by the rain, and dried by the sun; then packed and sold to brush, mattress and other manufacturers. The same with the hoofs and horns. Everything is utilized, and nothing wasted.

Yours truly,

N. H. PAAREN, M. D., V. S.

Bollinger's remarks continue as follows: "if we assume that one in one thousand swine is infected with trichinæ, and from the refuse of the same two more become infected, the following geometric progression may take place: the first year *one* swine infected, the second, *two*, the third, *four*, the fourth, *eight*, and so on, until, in the course of *fifteen* years, we have 16,384 swine infected from a single nucleus of infection."

It is therefore right to warn the people against the consumption of American pork, and the microscopic examination of the same must in no case be neglected, as in the American slaughter-houses the breeding of trichinæ seems to be so regularly and thoroughly carried out, that no organized attempt could be hoped to equal it."

To be continued.

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GLANDERS AND FARCY IN THE ARMY.

BY A. A. HOLCOMBE, I.V.S.U.S.A.

To what extent these diseases exist among the public animals is a question I have been trying to approximately determine for more than a year.

The ravages which they made during the war are, no doubt, well remembered by the older practitioners, and although at that time I had not considered Veterinary Medicine as among the professions from which I should select one for adoption, I well remember the public sales of many sorry-looking horses, which were disposed of at the close of the war, a great per centage of which, it is said, were glandered. J. C. Meyer, Sr., the eminent veterinary surgeon of Cincinnati, Ohio, incidentally reverts to the matter in speaking of the doctors (?) employed by the Government as veterinary surgeons during the war. He says: "One of them declared that no glandered horse could be found in the whole army; still, among the condemned ones which were sold, about a week or two later at auction, in Cincinnati, at least one third were affected with the disease."

The immense losses which resulted from spreading these infected animals throughout the country, as Dr. Meyer aptly remarks, "cannot be estimated."

That the disease should have been so generally prevalent in the army at that time is readily understood when the circumstances attending the public animals are considered.

The inspections made at the time of purchase were then even more imperfect than now, so that many animals were bought totally unfit for the service they were expected to perform, while infectious diseases escaped detection, unless so palpable as to attract the attention of the most casual observer. Under such conditions glandered horses were undoubtedly frequently bought, and once in the army became foci from which the disease spread in every direction. The congregation of thousands of animals in corrals and at picket lines, with surroundings most defective as

*American Vet. Review, vol. III., p. 172.

regards hygienic principles, and in many instances hard work with deficient forage, served to promote susceptibility and greatly increased the resulting mortality.

To these causes must be added the absence of the one means by which the disease could be held in check—the services of educated veterinarians.

But great as were the losses sustained at that time from the want of proper veterinary attendance, comparatively, the army to-day is but little better off.

True, hygienically, the condition of the public animals has been greatly improved since the war, but this change for the better is dependent in great part upon accidental conditions, and as I propose to show directly, when circumstances present the opportunity, consequent losses are proportionately as heavy as they were during the former period.* The usually short campaigns which our cavalry horses are now called on to perform, and the congregation of animals in small numbers at our posts, of necessity tends to diminish considerably the mortality from infectious diseases. But these are simply fortuitous circumstances—not considerate precautions. To trust to a permanent continuance of the former is to invite the disaster which sooner or later follows. Economy is to be attained only by the adoption of the proper safeguards.

To gather reliable statistics of the diseases which affect our public animals cannot readily be accomplished while the army is inflicted with the present veterinary *regime*. Notwithstanding the provisions of General Order No. 36, A. G. O. 1879, require a monthly report of the sick, wounded, condemned, killed, etc., from every company and battery, the information to be gained from the reports has never been published for the information of the veterinary surgeons and officers of the army. That these statistics are reliable is doubtful, when it is considered that with the exception of the reports made by five or six of the veterinary surgeons, they are made up by officers who have but little or no knowledge of animal diseases, and scarce a conception of pathological lesions. To trust to reports of this kind would most likely mislead; but still the reports are not without much value, for if they were properly tabulated by a veterinary surgeon and

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published, they would at least direct some attention to the subject and serve to confirm the urgent need the army has for a reorganization of the veterinary department.

But if the reports of the sick, wounded, etc., made by the officers of the army are not reliable as *statistics*, undoubtedly they are usually made in the best of faith and in accordance with what they believe to be the facts obtained from whatever sources are at hand. Are the services of the army veterinary surgeon as conscientiously performed? I regret exceedingly that my experience in the army will not permit an affirmative answer to my question. Let me explain.

After having inspected a large number of horses presented to the Government for purchase, and several hundred horses and mules that had done from one to twenty or more years' public service, without meeting a single case of glanders or farcy, I came to the conclusion that these diseases were by no means common in the army. Still, I believed my short experience could not furnish reliable data on the subject, so on the 9th of April, 1881, I addressed a circular letter to all the veterinary surgeons in the service, requesting replies to the following questions: How many cases of glanders have you seen in the army horses and mules, and when and where did you see them? I received the following replies: From J. B. Going, reporting three cases at Fort Clarke, Texas, two being horses and one a mule; one from W. H. Going, Fort Meade, Dakota, stating that he had seen a number of cases of the above diseases, and that he would prepare the statistics at the earliest opportunity. I have not yet received them. I also received a reply from Jas. Humphries, Fort Custer, Montana, saying that he had no record of the cases of disease occurring at his post; one from C. R. Leverett, Fort A. Lincoln, Dakota, in which he states that he saw an outbreak of glanders at that post in February, 1879, but that Dr. Going was the veterinary surgeon there at that time, and he (Leverett) had no record of the cases. C. L. Hingston, Fort D. A. Russell, Wyoming, reported one case of farcy in the horses at that post. He says: "I believe glanders and farcy in the army is an exceptional disease."

In my letter asking for information, I stated the object to be to publish the statistics obtained for the benefit of the profession and the Government. The results of my search for knowledge on the subject were not of a very satisfactory character. Some of the veterinary surgeons did not consider the matter worthy of attention; others have kept no record of cases! while others have not furnished the information promised. So much for the assistance and statistics obtained from the Army Veterinary Department.

Turning to my book containing a record of the cases which have occurred here under my observation, I find that the first case of glanders came to the hospital on the 1st day of May, 1881, to be treated for abscess of the right wall of the chest. I believe the case is interesting enough to give in detail.

The subject was a young pack-mule that had been sent here for recuperation from one of the posts in Colorado, about the beginning of the year. Like the others sent here for that purpose, he was very thin in flesh when he arrived. Unlike most others, he did not improve much in condition, yet presented no evidences of disease. He first entered the hospital on the 23d of April for a contused wound of the right knee. A small abscess formed, was opened and readily healed, so that he was discharged on the 29th. Two days after he was returned to the hospital with an abscess forming on the wall of the right chest, just below the elbow. Breathing somewhat hurried. An examination was made the next morning, May 2d, and the following entry made: "Abscess opened; contained healthy pus; oedematous swelling on the nose between the *alæ*, resembling *purpura hæmorrhagica*. Mucous membrane of the nose dark-colored and covered with a thick mucus. No petechiæ." Towards night the swelling of the mucous membrane of the nasal cavities had become so great as to threaten suffocation, so the trachea was opened, and the tracheotomy tube was inserted. Respiration now became comparatively easy.

On the 3d the right submaxillary gland was found swollen, hot, and painful to the touch; temperature 101° , the same as on the 1st and 2d. Discharge from the nose increasing,

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and slightly tinged with blood; breathing becoming more rapid and labored, and showing rapid congestion of the right lung. Respiration cannot be performed except through the tube. Mucous membrane shows signs of ulcerating. On the fourth the mucous membrane on both sides was covered with ulcers, and the patient rapidly approaching dissolution. The end was anticipated by destroying the case at once. No *post-mortem* examination was made.

An examination of all the public animals at the depot was now made to determine whether any other cases were present. Four mules were found with suspicious looking abrasions of the nasal mucous membrane; but a close observation in quarantine for two weeks failed to confirm the supposition that they might be glandered, consequently they were returned to duty.

These are all the precautions that were taken to prevent a further spread of the disease, or to detect the development of other cases, for the only reason that the depot quartermaster determined that a veterinary surgeon's services were no longer necessary at the depot.

It is unnecessary to inform the profession that such precautions, or rather want of precautions, are not effectual safeguards against the spread of diseases so contagious as is glanders, but it may interest others. The circumstances attending the animals, with which the case above reported had daily intercourse up to the 1st of May, were undoubtedly such as would afford the greatest facility for the infection of others. These mules, about one hundred in number, were at the time being stabled in a large shed, and daily turned into a small corral for exercise. Not only were they brought in intimate contact with each other while taking this exercise, but worse still, they were turned into the shed in the evening and fastened indiscriminately to the feed troughs, where they stood in contact with their neighbors on either side and noses touching in front. All these animals, during the succeeding few weeks, were sent to different posts in the department, where, if they were infected, they found new fields for doing mischief. That any further losses from this outbreak occurred I have no positive knowledge, but how easy it would have

been to prevent, so far as human precautions could prevent anything, the possible infection of cars, stables, harness, horses and mules from these hundred animals.

The next outbreak of this disease which I saw was at Fort Hays, Kans. I was sent there on the 9th of January, 1882, to treat some cases of epizootic influenza. I found a case of acute glanders in one of the horses belonging to Troop B., 9th Cavalry. An inspection of all the animals at the post being now made, one other case was found. Both were destroyed. Being hastily recalled from this post and sent to Fort Reno, Indian Terr., I recommended that the animals at Fort Hays be re-inspected at the earliest opportunity.

At Fort Reno, I found, not "pink-eye," but glanders. The first horse seen was in good condition, but was discharging a little from the right nostril; the discharge was tinged with blood. The mucous membrane of that side was covered with ulcers. On the 21st an inspection for glanders was begun. *Four* cases were found. On the 22d, *one* case. On the 26th, *ten* cases. On the 30th, *nine* cases. On the 31st, *three*. On February 1st, *four*. On the 4th, *two*. On the 13th, *one*. On the 14th, *one*. All these were public animals, a total of *thirty-six*, and were killed as soon as the disease was developed sufficiently to warrant condemnation. Beside these thirty-six killed under my direction, one had been killed a few days before my arrival, for acute farcy, and one private horse belonging to an officer at the post, was killed under directions from me.

The history of the outbreak offers some interesting features. Nearly all the horses killed at Reno had seen service in New Mexico, where the troops had been for several years, until transferred to the Territory in November '81. With one or two exceptions, these animals were in fine condition, and presented no external evidences of being infected with glanders. The discharge was, in nearly every instance, but a thin watery discharge, and this was by no means continuous, generally being most profuse in the early morning and disappearing toward noon, unless the wind was from the north, when it usually lasted all day.

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cases, is, no doubt, to be attributed to the dryness of the atmosphere, particularly when the wind is from the south. Catarrh in the human family exhibits the same peculiarity there, as does also the discharge from wounds. The climate of New Mexico is similar.

Another condition to be remarked was the infrequency of indurated submaxillary glands. How to account for this peculiarity I do not know, unless it also is to be attributed to climatic influences. The climate of New Mexico, some parts of Texas and the Indian Territory, according to the opinions of a number of physicians, offers a considerable immunity to the development of tubercle. Is not this the probable cause for the infrequency of glanderous deposits in the glands and lungs of infected animals in this climate?

Lastly, the glanderous deposits which take place in the mucous membrane of the nose, do not so readily degenerate, and break down from ulcers, as is seen in other climates. It is only in the old cases, as a rule, that ulceration of the nodules is seen.

Where so many of the characteristic symptoms of glanders were absent, skepticism as to the correctness of the diagnosis naturally existed, and this was not removed until *post-mortem* examination was made of cases that, to the laity, seemed entirely free from disease.

Troop F, 9th Cavalry, was most seriously infected. With a strength of sixty-three horses, *thirty* were destroyed during the five weeks they were under my observation. That these horses had been infected a long time there can be no doubt, for in some cases the *septum nasi* was nearly ulcerated through and almost the entire surface covered over with ulcers and nodules. If I am not misinformed, no veterinary surgeon had served with the troop for quite a time, but one of the veterinary surgeons of the regiment had seen them in September or October last and, no doubt, had the opportunity to inspect them. If the inspection was made, the disease was certainly either overlooked or the evidences misinterpreted. If the inspections were not made they should have been. *To send horses from post to post, where they will come in contact with numbers of other animals, without first*

determining that they are free from contagious diseases, is certainly not unattended with great danger.

Had Troop F, 9th Cavalry, been properly inspected before leaving the District of New Mexico, a part of the loss at least might have been averted; for the probabilities are that Troop I, 9th Cavalry, was infected after reaching Fort Reno, as was also Company I, 23d Infantry (mounted), and the animals belonging to the quartermaster's department at the post. How many stables, corralls, cars, and animals were infected by this troop while *en route* to its new station will never be known—the *possibilities* though, afford a subject for very serious contemplation.

A number of the cases killed in Troop F were recent cases and no doubt their development was hurried and favored by a change of climate. Of twenty-four horses from this troop stationed at Oklahoma, an out-post of Fort Reno, and subject to some exposure, *thirteen were found glandered, with not more than one old case among them.* They were at this out-post but thirty days.

The losses resulting from this outbreak up to the time I was relieved by Veterinary Surgeon Tempany, 9th Cavalry, (a period of five weeks), had reached about five thousand dollars. That the end is yet reached can scarcely be expected. But no doubt the disease will be completely stamped out in time, for the officers of the post are fully aware of the danger attending the disorder, and of the measures which must be enforced to eradicate it.

But it would be seeming economy to prevent such outbreaks, so that measures of extermination would not be necessary. This outbreak was great in proportion to the opportunities offered, and the accidental appearance of epizootic influenza at Fort Reno alone was the cause of its detection in time to prevent the general infection of all the animals at the post, and a much greater loss than has already been sustained. To depend upon accidents for the protection of the public animals against contagious diseases is a method of procedure utterly at variance with the teachings of sanitary science and one that should be no longer depended upon. Inspections every ninety days of all the animals in each department can and should be made by a graduated veterinary surgeon.

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The last case of glanders brought to my notice was at Fort Leavenworth, on the 27th of February, 1882, in a horse belonging to Troop M, 8th Cavalry. He had been sick for several days and had acute glanders with lung complications. Since then I have inspected all the animals belonging to the cavalry troops and battery of artillery at the post, but without finding any other cases of the disease.

The quartermaster's animals were inspected by a wagon-master! Comments are not necessary.

To conclude, the interesting question now is: How many other posts in the United States are infected? Forts Leavenworth, Hays and Reno, and the camp at Snake River, all of this department, have had cases within the past thirty days. Of the condition of other parts we have no positive knowledge; but is it not more than possible that some of them are infected? To my knowledge, three troops of the 9th Cavalry were recently infected. Is it not reasonable to infer that an inspection of all the other troops of this regiment which have been serving in the same district, would, to say the least, be a judicious procedure? I do not mean to say that the inspections should be made by a young post quartermaster who has no knowledge of animal diseases and who would report, "No signs of glanders here; horses are all in good condition;" but by one whose opinion would be reliable authority in the matter. Veterinary science awaits the opportunity to give to the public animals that protection against disease which can come from no other source. The prospects for some radical changes in this regard are not without hope.

Fort Leavenworth, Kan., March 16, 1882.

EDITORIAL.

OUR SIXTH VOLUME.

Our labors in the editorial department of the last volume of the REVIEW have been amply rewarded by the manner in which the profession has received and appreciated them. One gratifying evidence of this has been the constantly increased circulation, which has been such as to necessitate the issue of second editions

of various months of the REVIEW in order to satisfy the demand. This, of course, is due to the variety and excellence of material which we have presented to our readers, and to a better selection in the subjects of discussion and elucidation. Our thanks are due for many good articles to those who have become contributors to our pages, and we hope that others will follow their good example and assist us in continuing to make the REVIEW what it was intended from the start to become, to wit: the medium of communication and exchange of opinion between the members of the profession throughout all the country.

GLANDERS IN THE ARMY.

That the work which Dr. A. A. Holcombe has imposed on himself is one worthy of his efforts and talents will be granted by all those who are acquainted with him and with his working abilities. Familiar to all of us by the numerous articles with which he has favored us, his name is not only destined to become eminent as a teacher of his adopted profession, but also to win the honor of having worked for the reform of the position of the Army Veterinary Surgeon. His last article on *Army Horses* has undoubtedly been studied with interest by all our readers. It has also been appreciatingly noticed by army journals. To-day we reprint his report of his experience in an outbreak of glanders and farcy in the army, which we have no doubt will be sufficient, when read in Washington, to point him out as the proper person for the position of Chief Veterinary Surgeon in the Army, if such position is ever created, as we have good reason to believe it will be, sooner or later.

CESTODE TUBERCULOSIS IN THE CALF.

It is with pleasure that we call the attention of our readers to the series of experiments which were made by Prof. W. Osler, of McGill University, Montreal. It is long since we have heard from the friends of the veterinary profession in Canada, and we look upon the receipt of this excellent article as the forerunner of others which we may expect to receive from our Canadian

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friends. As we have always claimed, the REVIEW is the journal of all practitioners, of all schools, and without doubt it would add to the strength of the veterinary profession on this continent if the example of Prof. Osler was followed by other authorities on veterinary subjects from Montreal and Toronto.

RENEW YOUR SUBSCRIPTION.

Those of our friends who desire to renew their subscriptions are invited to send us notice at once, and to give us their correct address. We have received a number of complaints that the REVIEW has not reached its destination, and duplicate numbers have been sent where it was possible to do so. We are very careful in mailing the journal by the 4th of every month, and shortly afterward it ought to be in the hands of our readers. Change of address ought to be made known to us at once.

BACK NUMBERS.

A few copies of Vol. IV and Vol. V of the REVIEW are to be had by writing to the editor. Price, \$3 each.

EXTRACTS FROM FOREIGN JOURNALS.

TWO CASES OF CESOPHAGISMUS IN THE HORSE.

BY M. MOLLERAU.

1st Case.—A bay gelding, very nervous, which performed his work well for a number of weeks from the time he was bought, was found one morning by his owner with an abundant flow of saliva running from both his mouth and his nose; saliva which was thrown out by the motions of vomiting. Brought to the veterinarian, he seems quiet; his head is carried low; his physiognomy is anxious; the ears and neck slightly moist with perspiration; respiration somewhat accelerated; conjunctiva injected; pulse full, 50 per minute; temperature normal. The eyes and nostrils are covered with saliva, which fills up the mouth; the animal is constantly chewing; swallows, and after two or three deglutitions, is suddenly taken with convulsive movements,

bringing his legs together and appearing ready to lie down; his head well extended, and slightly carried to the left, when he throws up all the saliva he has been swallowing. He then resumes his normal position, and goes on chewing and swallowing, to vomit again after a short time. The saliva which is vomited is pure, without aliments, at times clear, at others foamy, sometimes spasms of coughing following its entrance into the respiratory tract.

Supposing the case to be one of dilatation of the œsophagus, the animal was carefully watched and examined, when all of a sudden the symptoms disappeared, and a few hours after, the animal took a light mash without difficulty. A week later, he presented the same lesions, and about two weeks afterwards he was taken with a third attack, which lasted six hours. A fourth attack lasted a whole day. He was then submitted to a treatment of bromide of potassium, 20 grammes at a dose, and for one month remained free from further trouble. After this date he was lost sight of.

2d Case.—Shortly after the time when the first horse had its fourth attack, another case came under the observation of the author. This animal had vomiting of saliva, like the first. He had no convulsive movements, but was constantly throwing up saliva, at times clear, at others foamy. There was the same condition as with the first; the same length of duration; same disappearance of the trouble. He also was placed under bromide of potassium, 20 grammes at a dose, and was relieved until three weeks after, when he had a second attack, which was treated in the same manner for a longer time, and the animal was then radically cured.

The use of the probang so commonly employed in human surgery, was not resorted to in these cases, on account of the difficulty and danger which are so often connected with its introduction in veterinary medicine.—*Archives Veterinaires.*

NEUROTOMY IN THE TREATMENT OF RINGBONE.

BY M. NAVARO.

After considering the unfavorable results obtained by the various modes of treatment in this form of lameness, such as blistering,

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alteratives, resolute frictions, firing in lines or in points, which always required the laying up of the animal for several weeks, to find him after the treatment no better than at first, the author recommends the operation of neurotomy, either high or low, as the case may require, and reports the statistics of 32 horses upon which he performed the operation, 21 of which he was able to follow for six months after, and 11 of which have not been seen since their recovery, that is, since they were operated on. He looks upon this treatment as the *practice of the future*. No more firing or other treatment! In all his career the result has been successful; in none has he had the slightest complication, and some lesions of the foot or of the coronet which had been observed and manifested by lameness afterwards, were observed in sufficient time to be relieved. The animal thus operated on, it is claimed, will be able to resume his work in perfect safety after 15 or 20 days.—*Archives Veterinaires*.

VACCINATION AGAINST ANTHRAX.

Recent experiments designed to test the immunity given by vaccination according to the method of Mr. Pasteur, have been made at Melun. The result was entirely in conformity with the ideas expressed by Mr. Pasteur, and proves that the immunity obtained by vaccination holds good for at least seven months. Sheep which were vaccinated in May last, and placed amongst others which had received a virulent inoculation, remained in perfect health. Other experiments will be made, in five months after this, upon sheep vaccinated at Pouilly-le-Fort, which if successful will prove that the immunity continues for at least a year.—*Revue d'Hygiene*.

COMMENCEMENT EXERCISES.

AMERICAN VETERINARY COLLEGE.

The Board of Trustees, the Faculty and the numerous friends of this institution met at Chickering Hall, on the evening of the

6th of March, to celebrate the seventh commencement of the College.

The hall was well filled by the friends of the graduates. The stage was handsomely decorated with flowers, and the music of the 7th regiment band was a harmonious feature in that temple of music. The prayer was given by Rev. Dr. Dorman. The Dean of the Faculty read his report of the work done in the Hospital Department of the College, after which Saml. Marsh, Esq., the President of the Board of Trustees, conferred the degree of D.V.S. (Doctor of Veterinary Surgery) upon the following gentlemen:

Gabriel Smith Agersborg, of Vermillion, Dakota; Horace Ward Atwood, B.S., North Orange, Mass.; Joseph Ferdinand Autenreith, Jersey City Heights, N. J.; William Stoughton Devoe, New York City, N. Y.; Geo. Sherbrooke Houghton, New York City, N. Y.; Lester Heard Harvard, Clinton, Mass.; August Joseph Jeannin, Navarre, Ohio; George Henry Keefer, M.D., Hillsdale, Michigan; James Samuel Kemp, Jr., Holbrooke, N. Y.; John Albert Leighton, New York City, N. Y.; William Manz, Morrisania, N. Y.; William Howard Martenet, Baltimore, Md.; Charles Leroy Moulton, Manchester, N. H.; Frank Risley, Waterville, N. Y.; Everett Woodhull Rowland, Miller's Place, N. Y.; Ward Beecher Rowand, Media, Pa.; Fred. Saunders, Salem, Mass.; Frank Traver, Rhinebeck, N. Y.

Prof. A. W. Stein, M. D., then awarded the following prizes:

The Gold Medal given by the Board of Trustees for the best general examination, to James Samuel Kemp, Jr., D.V.S.

A set of Medical Books, offered by the Alumni Association, for the second best general examination, to Lester Heard Harvard, D.V.S.

A Gold Medal presented by the New York State Veterinary Society, for the best practical examination, to James Samuel Kemp, jr., D.V.S.

A Silver Medal awarded by the Professor of Anatomy for the best examination in this department, to the junior class, was won by William B. Noyes, of Boston, Mass.

An excellent valedictory address followed, by W. B. Rowland,

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D.V.S., of the graduating class, and the address to the class was then delivered by Prof. R. G. Doremus, of Bellevue Medical College.

The benediction by Rev. Dr. Dorman closed the exercises, and everybody retired, feeling pleased and proud of the success which had once more crowned the labors and demonstrated the good work done by the institution.

AMERICAN VETERINARY COLLEGE.

HOSPITAL RECORDS.

By R. H. HARRISON, D.V.S., late House Surgeon.

MELANOTIC TUMOR ON THE SACRO LUMBAR PLEXUS—PARTIAL PARALYSIS.

This was one of the most interesting cases that was admitted into the hospital during the year, especially important and worthy of record on account of the rarity of the lesion, as well as the limited extent of the literature of veterinary science pertaining to the deranged functions of the spinal cord.

The subject was a gray gelding, 9 years old, and weighing about 1,500 pounds in good flesh, who first came under observation at the free clinics. The horse had been purchased by his present owner, a few weeks before, for a trifling amount, with the hope that by rest and treatment he would be able to do slow work. A severe blister had been applied over the loins, but it had been attended with no beneficial results. All the owner knew about the case was that the animal had received a fall, and had never recovered from it. The peculiar symptom manifested was a striking irregularity in the action of the hinder extremities, more marked on the left side than on the right; there was a loss of co-ordination in movement, and the patient presented symptoms similar to those described under locomotor ataxia. In bringing the hind leg forward, it was moved as a whole stiffly, and when placed on the ground would be carried out of its natural course, in extensive abduction and circumduction; in turning round, he would nearly fall, and to make him back was almost impossible

The case being a peculiar one, the owner was advised to leave the animal with us for a few days for observation, before a diagnosis or prognosis was given. This was readily consented to, and the animal was at once placed in slings and carefully watched. Nothing abnormal could be detected by external manipulation; one side compared with the other perfectly; careful rectal examination betrayed no lesion; the posterior aorta and the iliacs were apparently healthy, the appetite was good, and the functions seemed all active and in good working order, except this peculiar alteration in locomotion. The subsequent history of the case, rather imperfect, was found out a few days afterwards. The animal had been used in a lumber truck, and had worked well until he sustained a heavy fall and violent bruises over the loins by the load of lumber falling upon him; afterwards, when recovered from the shock and bruises, was left in his present condition. Dr. Robertson, on seeing the case in the hospital, recalled having seen it several months before, and, after having made a hasty examination, had pronounced it one of locomotor ataxia; after that he had lost sight of it.

The owner was notified that the animal ought to be destroyed, and Dr. Liautard purchased him, so that a careful autopsy might be made for the benefit of the students.

Several opinions were advanced by different members of the profession; as a rule it was considered to be a nervous affection, the exact nature of which was not known. Prof. Liautard thought that a tumor, possibly bony, was pressing on the cord; taking into consideration the fact that the horse had sustained a severe fall, and was partially paralyzed afterward, it was reasonable to suppose that there has been a partial fracture of one of the lumbar vertebræ. In the repairing process a bony deposit had taken place within the vertebral canal, causing pressure on the cord.

The animal was pithed, and a post-mortem examination of the spinal cord revealed that upon one of the main branches of the posterior portions of the lumbar plexus there was a melanotic tumor of the size of a large hickory nut imbedded into the bony structure surrounding and pressing upon that nerve. Little melanotic deposits were also found here and there on the other branches of the plexus. The other organs were not examined.

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HYPERTROPHY OF THE LIVER.

An enlarged liver of a horse was sent to us for examination by Mr. Eugene Burget, a student of the College, who has a large number of horses under his care. The gentleman gives the following history of the case: The subject was a brown gelding, nine years old, and about sixteen hands high. On the morning of the thirteenth of February was sent to work, apparently as well as usual; worked in a truck during the day, but was duller than usual, and needed constant urging to keep him at his work; was noticed to stagger several times, and once nearly fell forward on his head; at noon ate his customary feed of oats, but at night and the ensuing morning refused to feed or work, and was sent home by the man who had hired him; during the day he refused all food, appeared dull, and stood perfectly quiet in his stall; nothing wrong was observed about him, except that the urine voided was very highly colored. This animal had been subject to repeated attacks of colic, once or twice a month, for over a year. The next morning he was found cast in his stall, making desperate attempts to get up. When dragged out on the stable floor he suddenly died. Post-mortem examination was made three hours after death. Rigor mortis was well marked, and the body emaciated. On opening the abdominal cavity, a light straw-colored fluid escaped at first, which grew darker until it consisted almost entirely of blood; in all about twelve gallons escaped. The mesentery throughout was of a deep yellowish tinge and covered in many places by fibrinous deposits. The lungs were anæmic and the cavities of the heart were empty; the kidneys were enlarged, engorged and softened, and contained high colored urine in the hilus.

The liver was greatly enlarged and weighed fifty-nine pounds. Viewed as a whole, it was a huge, ill-shapen mass, very dark colored, with irregular, thick borders; at the superior border of the left lobe a large rent was present, with a huge mass of coagulated blood about it; the whole structure was softened and the entire posterior surface of the liver was separated by a large clot from Glisson's capsule, which was much thickened; in some

places, particularly around the inferior border of the right lobe, the hepatic structure was breaking down and showed fatty degeneration.

The measurement of the different lobes was, viz: left lobe, 44 inches in circumference, 21 inches long, 11 inches wide, and 4 inches thick; right lobe, 63 inches in circumference, 24 inches long, 17 inches wide, and 5 inches thick; middle lobe, 38 inches in circumference, 14 inches long, 10 inches wide, and $3\frac{1}{2}$ inches thick.

MELANOSIS IN THE DOG.

BY M. BUNKER, B.S., D.V.S., late House Surgeon.

Some time in July last a huge black dog was brought to the free clinics at the hospital for treatment.

On examination, the dog was found to have on his right side a large tumor. This growth, the owner said, had been there for some months; it had gradually grown larger and now was so large and annoying that he wanted to have something done for it.

On examination the growth was found to be hard to the touch, was bedded in the subcutaneous tissues and not an outgrowth from them.

A diagnosis was made, of probable melanotic tumor. The owner was advised to have it removed, but to wait until cooler weather, as there would then be less trouble to take care of the wound.

The tumor, at this date, was about the size of a goose egg.

The dog was taken away and nothing more was seen of him until Jan. 18, 1882, when he was brought to the hospital again to see if the tumor could be removed. An appointment was made, and the dog brought to the hospital for operation.

At this time the tumor had grown much larger, and was some five inches in diameter, and there had been for some time an offensive black discharge from openings in it. A diagnosis was now made of melanotic tumor.

January 21st.—The dog was put under the influence of an anæsthetic and the tumor dissected out.

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on, this being kept in place by an improvised Dutch collar, being allowed to remain for three days, when it was removed. The wound looked very well, and after dressing with carbolic acid, the animal was sent home with directions to come back every other day for dressing.

This was done until Feb. 8th, the wound setting up healthy suppuration and granulation.

February 8th.—The wound had so far healed that the dressing was left off and the dog directed to come back in a week.

February 15th.—The parts have entirely healed, the swelling of the trunk has subsided, and the wound entirely healed. Patient discharged.

This case is presented to the readers of the REVIEW as a rare case, for while in the horse melanosis is quite common, yet in the dog it is a very rare condition to meet.

The English authorities cite only one case as coming within their observation. The tumor, on removal, was found to be about five inches in diameter, and weighed fifteen ounces and a half.

When the tumor was examined it was found to be a melanotic tumor, confirming the diagnosis made.

SOCIETY MEETINGS.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.

This association held its regular semi-annual meeting, Tuesday, March 21st, at Young's Hotel, Boston, with the President, Dr. Bryden, presiding.

Fully one-third of the members were present.

The Comitia Minora met at 10:45 A.M. Discussion on proposed change of Sections 2 and 3 of Article 8 of By-Laws, resulted by the Committee on Education and Intelligence being directed to report at general meeting.

The Secretary was instructed to again notify applicants for membership of the necessity of presenting themselves, or their credentials, before the Board of Censors at the annual meeting in New York, September 19th, 1882.

John Duane, Jr., D.V.S., and F. W. McClellan, V.S., were favorably reported to the regular meeting.

The minutes of the Comitia Minora and of the general meeting were read and accepted.

On motion, the report of Committee on Education and Intelligence, in reference to alteration of By-Laws, was accepted, and on further motion, the committee was directed to bring the matter again before the Comitia Minora and report again at the next regular meeting.

The regular committees had no reports to offer.

Balloting for Drs. John Duane, Jr., and F. W. McClellan resulted in their admission as members.

The following gentlemen were proposed for membership: By J. S. Saunders, Fred. Saunders, D.V.S., Jas. H. Frinck, V.S.; by C. B. Michener, Chas. Moulton, D.V.S.; Frank Traver, D.V.S., Samuel Kemp, D.V.S., L. H. Howard, D.V.S., H. W. Atwood, D.V.S.; by Robert Wood, Chas. R. Wood; by Geo. H. Bailey, J. Hawkins, V.S.; by T. S. Very, W. W. Noyes. Communications were then read by the Secretary from Drs. Coates, Bunker, Foote, Colsson and Liantard.

Dr. Thayer presented some remarks on an osseous nasal polypus which he successfully removed in 1867. The specimen was a very rare and perfect one. An article on the same subject by Dr. Fleming was read by the Secretary. There was a marked resemblance between the polypi described by Drs. Thayer and Fleming. The discussion following on the use of the wire ecraseur was of much interest, and this form of the ecraseur was very highly spoken of by those who had used it.

The meeting then adjourned to dinner, after which the subjects of splenic fever, Texas fever and quitters were discussed.

The meeting closed with some reports of cases which proved to be of much interest to all present.

WILLIAM BRYDEN, *President.*

C. B. MICHENER, *Secretary.*

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MEETING OF THE NEW YORK STATE VETERINARY SOCIETY.

The sixty-eighth regular monthly meeting of the New York State Veterinary Society was held at the American Veterinary College, Tuesday, March 14, 1882, at 8 o'clock P. M.

The meeting was called to order by the President.

The following gentlemen responded to the roll call: Drs. Liautard, Burden, L. McLean, R. A. McLean, Coates, Bunker and Foote.

The minutes of the previous meeting were read and adopted.

The committee appointed to inquire into the standing of Dr. L. M. Crane, who was proposed for membership at the last meeting of the Society, reported favorably, whereupon motion was made and seconded that he be admitted as a member. Drs. Coates and Bunker were appointed as tellers. Result of ballot was the unanimous election of the gentleman as a member of the Society. Dr. Coates proposed the name of Dr. Kemp for membership. The same committee was authorized to serve, that served in the case of Dr. Crane.

Dr. Liautard read a paper on "Dislocations," referring particularly to the "so-called cases of dislocation of the stifle." He endorsed the theory brought forward in a recent meeting of the Société Centrale Veterinaire de Paris, by Mons. Chuchu "that in cases of so-called luxation of the patella, the patella was caught on the upper segment of the inner border of the femoral trochlea. As an illustration of this condition the fact was presented that it is met in animals which have been sick for some time and in which the adipose pad of the joint is reduced as well as the synovial secretion is diminished, conditions which hinder the possibility of excessive movement upwards of the patella by contraction of the triceps cruralis, and difficulty of its returning to its normal position. In the words of Mr. Bouley, this position of the patella was a normal position carried to extreme.

A lengthy discussion ensued; the theory meeting with considerable opposition. The question as to whether the condition should be considered as a dislocation or not, gave rise to a lengthy debate, Drs. L. McLean and Coates taking the stand that when-

ever the articular surfaces of the patella and the femur are not in juxtaposition, it is dislocation, Dr. Liantard claiming that the condition, as it ordinarily gives rise to no inflammation, destruction of parts, or lameness, consequently should not be considered a dislocation. Dr. Bunker cited a case in illustration of the theory of the essay.

A vote of thanks was tendered the essayist, after which the Society adjourned.

H. T. FOOTE, M.D., V.S., *Secretary*.

CORRESPONDENCE.

EPIZOOTIC CELLULITIS.

FORT LEAVENWORTH, Kans. }
March 10th, 1882. }

Editor of the American Veterinary Review:

Dr. Myers, in an answer to my criticism of his article on Epizootic Cellulitis, assumes, as it seems to me, a most remarkable position regarding this condition. He acknowledges that the recent epizooty among horses was influenza, yet insists that it is proper to term the outbreak an epizooty of cellulitis!

Was it the cellulitis or the influenza that was epizooty?

According to my experience with the complaint at Leavenworth, Kansas City, Fort Hays, Kansas, and Fort Reno, Indian Territory, the initial disease in every instance was influenza, the cellulitis being nothing more than a symptom, or at most a sequel.

To call these accidental cases epizootic cellulitis is a misnomer most unwarranted. As well might we so name the œdema and occasional cellulitis of diseases of the liver, heart and kidneys.

Would Dr. M. use the terms epizootic hepatitis, enteritis, pneumonia, etc., for these outbreaks of influenza in which one or the other of these complications prevailed more often than the others?

It would be as reasonable, for even marked œdema was not

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present in all the cases I have seen, while cellulitis was most rare.

Evidently, Dr. M. saw the tail first, and mistook it for the dog.

Very respectfully yours,

A. A. HOLCOMBE.

PROFESSIONAL NOTES.

VETERINARIANS RECEIVE THE TITLE OF M.D.

W. J. Coates, D.V.S., who has been for several years connected with the American Veterinary College as Lecturer and Demonstrator of Anatomy, received the degree of M.D. at the commencement of the Medical Department of the University of the City of New York.

Thomas B. Herr, D.V.S., also received the same from the Eclectic Medical College of New York City.

VETERINARY SURGEON WANTED.

Messrs. Stearns & Smith, of Monroe, Wis., have applied to us for a qualified veterinarian. In their letter of inquiry they state that they are in a town of 4,000 inhabitants, in the center of a large stock-raising country, and that a good opportunity is thus afforded to a good and competent young man.

ASSISTANT WANTED.

Mr. W. J. Smith, Veterinary Surgeon, of Genessee, Henry Co., Ill., makes a very good offer for an assistant. A student who would graduate in 1883 or 1884, can find with him a good opportunity to see practice, to continue his studies, and to enter into a partnership which will ultimately give him the entire practice, Mr. Smith being advanced in years and desirous to retire from labor. Applications to him will receive attention at once.

VETERINARY PRACTICE FOR SALE.

A well established veterinary practice in the most central and best locality in Brooklyn, including horse, wagon, instruments, pharmacy, &c., are offered for sale. A full investigation and all information given to parties desiring to purchase. Address B., 174 Jefferson street, Brooklyn, N. Y.

CORRECTION.

In the last number of the REVIEW (letter of Dr. Bryden,) the last two lines of page 573 ought to read "the hoof crowding and injuring the wings of the bone," instead of "corroding and injuring the rings."

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Veterinary Journal, Veterinarian, Clinica Veterinaria, Recueil de Medecine Veterinaire, Archives Veterinaires, Revue fur Thierheilkunde und Thierzucht, Revue de Hygiene, Journal de Zootechnie.

HOME.—Turf, Field and Farm, Prairie Farmer, Breeders' Gazette, Ohio Farmer, Medical and Surgical Reporter, Country Gentleman, N. Y. Weekly Times, Bulletin of the National Board of Health, American Cultivator, National Live Stock Journal, Medical Record, Proceedings of the Medical Society of the County of Kings.

JOURNALS.—Journal of the American Agricultural Association, Farmers' Review, Home and Farm, Topeka Daily Capital, Medical Herald, American Farmer, Annals of Anatomy and Surgery.

COMMUNICATIONS.—J. C. McKenzie, Thos. Surgis, A. A. Holcombe, M. Jos. Roberts, R. Harrison, M. Bunker, C. B. Michener.

PAMPHLETS AND BOOKS.—Trance and Trancoidal States in the Lower Animals, by G. M. Beard, A.M., M.D., Report of the Commissioners on Diseases of Domestic Animals to the Connecticut Board of Agriculture.

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for several months without having his feet trimmed and pared by the blacksmith, these are seen contracting by degrees, as they increase in length, and soon assume the aspect of hoof bound.

But these are not the only effects of shoeing in the etiology of contraction. On the contrary, this practice is the most common cause of this lesion of the hoof, if not practiced with the intelligence it requires. We have said, in speaking of corns, that they were proofs of bad shoeing. The same might be said of the contraction. Moreover, corns generally indicate great errors in shoeing, while hoof bound demonstrates the ignorance of the physiology of the hoof, which in action must enjoy the necessary elasticity to relieve the contact with the weight of the body upon the ground. No doubt the theory of Bredey Clark exaggerates the degree of elasticity in admitting a great power of dilatation of the hoof, but it is an opposite excess to deny it entirely. The dilatation of the hoof, though limited, is evident at the heels; especially on feet which have never been shod.—(Merche.) There is especially in the inside of the foot, in the soft and supple parts, a certain compressibility of the hoof, which is often overlooked, and which is interfered with by a too narrow or unmethodical shoeing.

The external dilatation of the hoof is comparatively limited, but on the inside of the hoof, there is in the posterior part of the foot (especially in the fore feet) a movement downwards and outwards of the os pedis, for whether the normal elasticity of the hoof is necessary, either by the physical and physiological constitution or the arrangement of the constituent parts of the hoof. Quite often then, shoeing, especially if too tight, resists the internal pressure. Let us even admit that the dilatation of the heel be normal, shoeing which would prevent it would always produce, at the time of rest, a pressure upon the hoof which would limit the compressibility of the deep soft tissues. The frog especially, formed of a softer horn, and placed under the plantar cushion, must receive this gradual pressure, which diminishes by degrees as the hoof becomes harder, and is reduced considerably as it reaches the external horny layers.

The errors committed in shoeing, and which predispose to hoof bound, vary. The first is the manner in which the foot is

pared; too often the heels are lowered to excess, while the toe is allowed to remain too long; too often again the bars are hollowed too deeply, thinned too much, as well as the frog. The wall then tends to retreat, as it is no longer protected behind. In reducing the height of the heels, in opening them, the tendency to contraction is increased; the thinned hoof dries up, the lowered heels have lost their strength, and the bars are unable to perform their functions.

A vicious adjustment also contributes to contraction. When the shoe is so prepared that its upper face is concave, and its branches form a plane inclined from without inwards, and when this face extends back to the heels, there is a circular pressure produced upon the inferior border of the wall. There is a case in which the foot has a tendency to drop, pressed in as it also is by the weight of the body as the foot rests on the ground.

Another wrong practice is to place the nails too near the heels. The fixing of the shoe on the foot tends always to produce contraction, as Bredey Clark observed; it especially prevents the widening of the hoof, as remarked by Rodet and Coleman. But this effect of the nails is well marked at the heels, where they prevent the dilatation of that part of the foot.

These effects of shoeing are to be observed so much the more rapidly and seriously when the hoof is thicker, denser, and of a finer structure, as it is observed in small feet. In these feet, the hoof grows more rapidly, and is on this account more ready to contract. Let us now consider that this effect of shoeing is permanent, and that to that effect of a first shoeing comes to be added that of a second, of a third, and so on, and we can readily understand how truly can be attributed the great number of contracted heels one may meet with, to erroneous shoeing.

Inaction is also an important cause, as, says Turner, the horse is by nature destined to be always in motion; it is a condition of its health, and it is on account of this condition that in the state of nature, he is free from contracted heels. It is, on the contrary, because the domesticated horse is confined within a stall for hours and days, that his feet become contracted. We have seen colts raised without exercise, whose feet were contracted before they were shod.

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Contraction of the heels is often the result of other diseases of the hoof, and of other lameness. It is commonly associated with corns, navicular disease, punctured wounds of the plantar region, accompanied with long sensitiveness of the posterior parts of the foot; after diseases of the frog; thrushes; side bones; phalangeal articular diseases; in fact, after all affections of long standing, even if they have their seat in the upper segment of the frog.

Finally, heredity has been named as one of the causes. This cannot be denied as to some breeds, principally of meridional climates, as a consequence of the organization of their feet, which are usually small. The proposition has, however, we believe, been exaggerated. This is proved by the Arabian horse, which, though accused of the vicious conformation from heredity, has according to Vallon, Crompton, and others, the most admirable conformation of his feet, when it has not been shod. It is broad, with good heels, neither too high nor too low, well open, well prominent wide frog, the external wall being strong and well developed. In horses of Caramania, Anatolia, Syria, and those of the Arabs, which are constantly in the desert, from Bagdad and Bassora to the Gulf of Persia, the foot is handsomely made, and free from contractions when it has been exempted from shoeing.

(To be continued.)

CASES FROM A NOTE-BOOK.

By T. B. ROGERS, D. V. S.

SUCCESSFUL CÆSAREAN SECTION.

In the early part of March, 1882, I was called to attend a cow, the property of Mr. Robert Noble, of Mount Ephraim, N. J. She had sustained severe spinal injury (afterwards found to be partial fracture of body of a lumbar vertebra) and was unable to stand. She was heavy with calf, although as the bull ran loose with the cows the owner did not know when she was due to "come in," and I refrained from destroying her, hoping to save

the calf. The cow grew weaker daily and as it did not appear probable that she would calve prior to death, I ordered her killed, and she was knocked on the head in my presence; the cow being apparently dead, the owner commenced to skin her by slitting the skin down the median line; as he did so, the calf began to kick, and taking the knife, I hastily cut out the foetus. It lay apparently dead, but after the use of artificial respiration for a few seconds began to breathe. I wrapped it up in a blanket and carried it to the kitchen and rubbed it dry; the calf was a bull and was about two weeks from term, so I had little hope of saving it, but on visiting the farm to-day, (28th) I found "Cæsar" still occupying a corner of the kitchen. He is now three weeks old and is about as big as a calf at term, takes three or four quarts of milk per diem, and is the object of much curiosity in the neighborhood.

CONTRIBUTION TO THE SYMPTOMATOLOGY OF RUPTURE OF THE DIAPHRAGM.

The horse stands with the head beneath the manger, the respiration rapid, shallow and slightly oral, pulse fast, irregular, very weak, membranes cyanotic, temperature in rectum not taken, legs and ears icy cold, anorexia, but animal drinks somewhat greedily and in big gulps, *the water sounding as though poured into the cavity of the chest*. Attitude characteristic of great weakness and depression, and the near fore leg persistently pointed. No passage of fœces from time of attack until death.

Post Mortem Appearances.—Enormous amount of effusion into the thoracic cavity, with formation of exudate on the pulmonary pleura over its whole extent, lymphoid rather than fibrinous, and about 1-16 inch in thickness; lungs congested and the inferior half of left lobe collapsed apparently from pressure; it did not feel at all like lung tissue; the remaining portion of left lung was congested, as was the right, but the congestion was apparently hypostatic, not inflammatory.

The left leaf of the diaphragm was ruptured throughout almost its whole extent and there was exudate and false membranes in the abdominal cavity. A large portion of the supra-sternal cur-

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vature of the colon occupied the chest. I may add that on making an aural examination of the chest, I found tympanitic resonance on the left side and moderate dullness on the right. The attack was sudden.

AN INQUIRY

INTO THE ETIOLOGY AND PATHOLOGY OF THE VENEREAL DISEASES OF MAN AND OF THE LOWER ANIMALS.

BY CHARLES F. RING, M.D.

In pursuing our investigation we shall avoid the beaten path of others, and mark out one peculiarly our own. What this will lead to only experiment can determine. Other theories have looked at but one side of the subject—that of human pathology; comparative pathology will complete the whole of it, from ours. We have carefully studied, not only the venereal diseases in the human family, but as they exist in the lower animals as well. This overlooking the analogy between these diseases of the two species will, we think, account for the failure, so far, to find a cause for one of them—syphilis—and to separate pathologically these affections. The question of identity between chancroid and chancre, in effect, is not yet settled, nor will it be to all minds until the exotic origin of syphilis be known. The burden of our argument is to prove this, and show its source. The analogy between these diseases of man and the lower animals is both in point of pathology and evolution. To illustrate: Gonorrhœa and chancroid in both species were known long before a constitutional disease like syphilis claimed attention.

It may be asked what will be gained by demonstrating the origin of syphilis. We reply, it will prevent the constitutional treatment of a local disease like chancroid—as gonorrhœa was in years past—to the patient's detriment. It will set free pathologically, scrofulosis carcinomata, and other diseases with which it has been associated of late years. It will show to the veterinarian, we think, the nature of a disease in the horse which he does not now understand. It will throw out numerous hints that point

to rich discoveries in other departments than this. Viewed from our stand-point, order and harmony come out of chaos, and the distinctions before obscure, become clearly defined.

Regarding syphilis as a modern disease, it is necessary to review all theories, for and against this view, until the closing years of the fifteenth century are reached—the period of outbreak of this disease—when we will introduce a theory to account for its appearance at just that time, and not before. We only ask of those who read this discussion to view it in the light of common sense—which Emerson says is akin to genius—and we shall be satisfied.

HISTORY.

The history of syphilis is involved in much obscurity. It is the offspring of a disease that caused much havoc near the end of the fifteenth century. That this disease in itself was not venereal is conceded by most writers. Whether it had existed before, and had ever given rise to a syphilitic disease prior to this period, is for consideration hereafter. Some writers maintain that syphilis was known to antiquity. This view is held mainly by those who, in recent times, have favored the "unity," as against the "duality," in syphilis. Those who defend its "duality," i. e. that there are two poisons, one of which is constitutional, the other local, as the chancroidal, generally consider it to be a metamorphosis from leprosy, or to have been colonized from America by the crews of Columbus. Its relation to carcinomata and scrofulosis, and to diseases recorded in Biblical history—believed in by some—must prove a myth if it be shown that syphilis was unknown prior to the end of the fifteenth century. Admitted that it *was* known in Biblical times, it does not impair the argument in the least, as to whether syphilis has had a modern origin. Syphilis was not known to writers in the middle ages down to the period we have named—hence it would appear that if it had had a prior existence it had become extinct. Evidence failing, we think, to establish an ancient origin, we must regard it as a comparatively new disease.

We wish here to enroll ourself amongst the advocates of the "dualism," (an unfortunate term), of syphilis, and maintain that

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gonorrhœa and chancroid, but not syphilis, have existed from earliest antiquity. This position we can best maintain by reviewing the history of these local diseases.

The physicians of the Greeks and Romans: Hippocrates, Celsus, Ætius, Actuarius, and others, speak of ulcers and excrescences on the sexual organs, and of rhagades on the male parts, the anus and pudendum. The historians and poets mention the same, but nowhere is there the slightest evidence that a constitutional disease ever resulted therefrom.

"The writers of the middle ages," says Renourd, "are more explicit than those of antiquity. William de Salicet, who lived in the thirteenth century, which is two hundred years before the outbreak of the syphilitic epidemic, says buboes often occurred after an impure coition, '*quum accidet homini in virgâ corruptio, propter concubitum cum fœdâ muliere, aut ob aliam causam.*'" Lefranc expressed himself more clearly still. The 'ulcers on the penis,' he says, 'proceed either from hot pustules, which burst, or acrid humors, or from commerce with a woman who has been previously affected in the same manner.'"—[History of Medicine, 1856, p. 344.]

Jahr writes: "What seems to be strange is, that in spite of the corrosive ulcers of which all make mention, and which seem to have been known to the Greeks and Romans, not one author seems to have directed attention to the consecutive phenomena that these ulcers may be followed by others in the mouth and throat, and which would not have escaped the attention of those earlier authors any more than that of the physicians of the sixteenth century, more especially since many of these consecutive phenomena in the present chancre syphilis, do not manifest themselves at such a remote period after the primary symptoms, but that every observer must be struck by their internal pathological connection."—[Venereal Diseases, p. 282.]

Later still, the regulations in force governing the "houses of pleasure" in London, in the years 1162 and 1430,* for the suppression of venereal diseases, tell us nothing beyond the bare fact that these affections existed, and to a considerable extent; and, surely, if secondary phenomena had followed any of them, descriptions of syphilis had certainly not been wanting.

Marey and Hunt tell us: "This disease was unknown to Greek and Roman physicians, as no allusion is made to it by any of their medical authors, historians or poets; and much discussion has taken place respecting its first introduction into Europe."

All modern authors who first described it (collected by Linsinus, Astruc and Girtannar) in the latter years of the fifteenth century, comment upon it as "*morbis novus*," "*morbis gnatus*." Peter Pinator traces the origin of the disease to the time of the conjunction of Mars, Venus, Jupiter and Mercury, A.D. 1483, at which time he thinks the disease must have originated; but Fulgosi dates it at October, 1492; Sanchez and Hensler in 1493. Others contend that it originated in Hispaniola. It is certain, however, that it was first distinctly recognized, says Dr. Simpson, of Edinburgh, during the invasion of Italy by the victorious army of Charles VIII. of France, and it first broke out extensively at Naples when the French took possession of that city in the spring of 1495. This army carried the disease with them to France, Switzerland, Germany, Flanders, etc. In 1497 it had reached Aberdeen, in Scotland. Six months later, the new disease was made subject of municipal regulation in Edinburgh.

"Gunbrecht and Brandt wrote in 1496 that the disease had already invaded France, Germany and Britain."

During a great portion of the sixteenth century it was so contagious in some parts of Europe that it was communicated by lying in the same bed, by the clothes, gloves, money, or breath of the patient. A variety of syphilis also prevailed in Canada some years ago, of so virulent a nature that it was communicated by the breath and by contact.

Professor Simpson, from a historical review of the earliest notices of syphilis on record, arrives at the following pathological opinion:

I. That syphilis was a species of disease new to Europe when it first excited the attention of physicians and historians in the last years of the fifteenth century.

II. That it is a species of disease distinct and different alike first, from gonorrhœa; and second, from Greek leprosy, (with both of which affections it has been occasionally confounded);

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for both of these maladies existed and were abundantly recognized in Britain long before the date of the introduction of syphilis.

III. When the disease first broke out it was regarded by the physicians and the public as communicable, and constantly communicated from the infected to the healthy by the employment of the clothes, vessels, baths, etc., used by those suffering from it, and by the slightest contact, or even breathing the same air with them, etc. *For many years after its outbreak, sexual intercourse does not appear to have been suspected as the mode of its propagation; the primary affections of the sexual organs were not noticed as constant symptoms.* [Italics are my own.—R.] Their attention was chiefly directed to the secondary symptoms, such as the hideous eruptions on the skin, ulcers of the throat, the exostoses and nocturnal pains in the bones, etc.

"The rapidity with which it spread over Europe led men to suppose that it travelled as an epidemic, without waiting for the slow process of communication by contact."—[Theory and Practice, Vol. II, p. 300.]

Mr. Drnutt but repeats in substance the same thing: "On the other hand," he continues, "the opponents of its antiquity contend that, although ulcers or pustules in the genital organs and sundry discharges were not unknown, still, that neither in Celsus, nor in any other ancient writer, do we find mention that such maladies were solely the product of sexual commerce, or that they were particularly difficult to heal; or that they were frequently, or indeed ever *followed by constitutional diseases.*"

"But the most potent argument of all is this, viz.: that all at once, towards the close of the fifteenth century, whilst the French army was besieging Naples, a new and terrible disease sprung up, rebellious to every known method of treatment, attacking high and low, rich and poor, sparing neither age nor sex, consisting of ulcers on the parts of generation in both sexes, which were speedily followed by affections of the throat and nose; by corroding ulcers over the whole body; by excruciating nocturnal pains, and frequently by death. Whereas, not one word that can be construed into any similar affection is to be met with

directly stated in any writer before this period."—[Surgery, p. 177.]

Professor Keys writes: "Syphilis was not recognized as a morbid entity until the end of the fifteenth century, at and after the period of the siege of Naples (1494-5) by Charles VIII. That then, and for a considerable time thereafter, the disease behaved with unwonted virulence, attacking all classes of society, and killing a large number of its victims. From that time to the present day, syphilis has been a subject of peculiar interest to all classes of medical men."

[*To be continued.*]

TRICHINÆ,

A LECTURE DELIVERED BEFORE THE STUDENTS OF THE
AMERICAN VETERINARY COLLEGE.

BY F. S. BILLINGS, V. M.

(Continued from page 16.)

With reference to the disease *itself* among swine, I have the following from the "Magazine für die Jesammte Thierheilkunde" vol. 31. p. 6, 1865.

These experiments have demonstrated that the consumption of trichinous flesh by swine, with the consequent development of the embryos in their intestines, and their migration and lodgment in the muscles, may indeed cause disease, but the phenomena of the same have neither that constancy or character which will permit of looking upon them as pathognomonic, *i. e.* peculiar to this disease alone, during the life of swine so infected. All the swine which were fed with trichinous flesh became ill within a few days after its consumption. The most constant phenomena presented were as follows:

Diarrhœa, but not constant, but interrupted frequently by the passage of more solid fœces. Appetite irregular, sometimes more, sometimes less, sometimes entirely wanting. Phenomena indicative of abdominal pains were often observable, such as uneasiness, burying themselves in the straw, turgidity of the

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